Lab Cycle 2

CO2: Learn and design client-side validation using scripting languages.

Program # 6

Create a HTML page to explain the use of various predefined functions in a string math object in java script.

PROGRAM CODE:

Frame.html

```html
<html>
<frameset cols="50%,*">
<frame src="string.html">
<frame src="math.html">
</frameset>
</html>
```

string.html

```html
<html>
<head>
<style>
h3,p{font-size: 20px;font-family:monospace ;}
</style>
</head>
<body>
<br><br>
<h2 style="color:#495F75;"><center>STRING FUNCTION</center></h2>
<br>
<body bgcolor="powderblue">
<input type="text" placeholder=" Enter the String" id="t1"><br><br>
<input type="text" placeholder="Enter the start of substring() "
id="t2">     
<input type="text" placeholder="Enter the end of substring()" id="t3"><br><br>
<input type="text" placeholder="Enter the start of substr()"
id="t4">     
<input type="text" placeholder="Enter the length of substr()" id="t5"><br><br> <input
type="text" placeholder="Enter the end of slice" id="t6"><br><br>
```

```
<input type="text" placeholder="Enter the string to be replaced"
id="t7">     
<input type="text" placeholder="string instead of" id="t8"><br><br>
<input type="text" placeholder="Enter the string to be join" id="t9"><br><br> <button
type="button" onclick="string();">operations</button>
<h2 id="str1"></h2><br>
<h3 id="d1"></h3>
<p id="demo1"></p>
<h3 id="d2" ></h3>
<p id="demo2"></p>
<h3 id="d3"></h3>
<p id="demo3"></p>
<h3 id="d4"></h3>
<p id="demo4"></p>
<h3 id="d5"></h3>
<p id="demo5"></p>
<h3 id="d6"></h3>
<p id="demo6"></p>
<h3 id="d7"></h3>
<p id="demo7"></p>
<h3 id="d8"></h3>
<p id="demo8"></p>
<script>

function string(){

var text1 = document.getElementById("t1").value; var n1 =
document.getElementById("t2").value; var n2 = document.getElementById("t3").value; var
n3 = document.getElementById("t4").value; var n4 = document.getElementById("t5").value;
var n5 = document.getElementById("t6").value; var text2 =
document.getElementById("t7").value; var text3 = document.getElementById("t8").value;
var text4 = document.getElementById("t9").value;
document.getElementById("d1").innerHTML = "<u>substring("+n1+","+n2+")</u>";
document.getElementById("demo1").innerHTML = text1.substring(n1,n2)
document.getElementById("d2").innerHTML = "<u>substr("+n3+","+n4+")</u>";
document.getElementById("demo2").innerHTML = text1.substr(n3,n4);
document.getElementById("d3").innerHTML = "<u>slice(0,"+n5+")</u>";
document.getElementById("demo3").innerHTML = text1.slice(n5);
document.getElementById("d4").innerHTML = "<u>replace("+text2+","+text3+")</u>";
document.getElementById("demo4").innerHTML = text1.replace(text2,text3);
document.getElementById("d5").innerHTML = "<u>concat()</u>";
document.getElementById("demo5").innerHTML = text1.concat(" ",text4);
document.getElementById("d6").innerHTML = "<u>length of </u>"+text1;
document.getElementById("demo6").innerHTML = text1.length;
```

```
document.getElementById("d7").innerHTML = "<u>converting to uppercase</u>";
document.getElementById("demo7").innerHTML = text1.toUpperCase();
document.getElementById("d8").innerHTML = "<u>converting to lowercase</u>";
document.getElementById("demo8").innerHTML = text1.toLowerCase();;
}
</script>
</body>
</html>
```

math.html

```
<html>
<head>
<style>
h3,p{font-size: 20px;font-family:monospace ;}
</style>
</head>
<body bgcolor="powderblue">
<br><br>
<h2 style="color:#495F75;"><center>MATH FUNCTION</center></h2> <br>
&nbsp&nbsp<input type="text" id="num_value" placeholder="Enter the number"
>&nbsp&nbsp&nbsp&nbsp&nbsp&nbsp&nbsp<input type="text" id="power"
placeholder="Enter the power" ><br><br>
&nbsp&nbsp<input type="text" id="start" placeholder="enter the start value" ><br><br>
&nbsp&nbsp<input type="text" id="end" placeholder="enter the end value" ><br><br>
&nbsp&nbsp<button onclick=" myFunction()">operations</button> <br>
<h3 id="heading1"></h3>
<p id="num_value1"></p>
<h3 id="heading2"></h3>
<p id="num_value2"></p>
<h3 id="heading3"></h3>
<p id="num_value3"></p>
<h3 id="heading4"></h3>
<p id="num_value4"></p>
<h3 id="heading5"></h3>
<p id="num_value5"></p>
<h3 id="heading6"></h3>
<p id="num_value6"></p>
<h3 id="heading7"></h3>
<p id="num_value7"></p>
<h3 id="heading8"></h3>
<p id="num_value8"></p>
<h3 id="heading9"></h3>
```

```
<p id="num_value9"></p>
<h3 id="heading10"></h3>
<p id="num_value10"></p>
<h3 id="heading11"></h3>
<p id="num_value11"></p>
<p id="start1"></p>
<p id="end1"></p>
<script>

function myFunction() {
var num_value= document.getElementById("num_value").value; var
startvalue=document.getElementById("start").value; var
endvalue=document.getElementById("end").value;
var powervalue=document.getElementById("power").value;
document.getElementById("heading1").innerHTML ="<u>Math.round()</u>";
document.getElementById("num_value1").innerHTML =Math.round(num_value);
document.getElementById("heading2").innerHTML ="<u>Math.ceil()</u>";
document.getElementById("num_value2").innerHTML =Math.ceil(num_value);
document.getElementById("heading3").innerHTML ="<u>Math.floor()</u>";
document.getElementById("num_value3").innerHTML =Math.floor(num_value);
document.getElementById("heading4").innerHTML ="<u>Math.trunc()</u>";
document.getElementById("num_value4").innerHTML =Math.trunc(num_value);
document.getElementById("heading5").innerHTML ="<u>Math.sign()</u>";
document.getElementById("num_value5").innerHTML =Math.sign(num_value);
document.getElementById("heading6").innerHTML ="<u>Math.pow()</u>";
document.getElementById("num_value6").innerHTML =Math.pow(num_value,powervalue);
document.getElementById("heading7").innerHTML ="<u>Math.sqrt()</u>";
document.getElementById("num_value7").innerHTML =Math.sqrt(num_value);
document.getElementById("heading7").innerHTML ="<u>Math.abs()()</u>";
document.getElementById("num_value7").innerHTML =Math.abs(num_value);
document.getElementById("heading7").innerHTML ="<u>Math.min()</u>";
document.getElementById("num_value7").innerHTML
=Math.min(num_value,startvalue,endvalue,powervalue);
document.getElementById("heading8").innerHTML ="<u>Math.max()</u>";
document.getElementById("num_value8").innerHTML
=Math.max(num_value,startvalue,endvalue,powervalue);
document.getElementById("heading9").innerHTML ="<u>Math.random()</u>";
document.getElementById("num_value9").innerHTML =Math.random(num_value);
document.getElementById("heading10").innerHTML ="<u>Math.log()</u>";
document.getElementById("num_value10").innerHTML =Math.log(num_value);
document.getElementById("heading11").innerHTML ="<u>Math.log10()</u>";
document.getElementById("num_value11").innerHTML =Math.log10(num_value); }

</script>
```

```
</body>
</html>
```

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OUTPUT:

STRING FUNCTION | MATH FUNCTION

STRING FUNCTION

Abhimanue

m	e
0	4
i	
ue	yu
M S	

operations

substring(m,e)

substr(0,4)

Abhi

slice(0,i)

Abhimanue

replace(ue,yu)

Abhimanyu

MATH FUNCTION

4	2
1	
5	

operations

Math.round()

4

Math.ceil()

4

Math.floor()

4

Math.trunc()

4

Math.sign()

1

---

operations

substring(m,e)

substr(0,4)

Abhi

slice(0,i)

Abhimanue

replace(ue,yu)

Abhimanyu

concat()

Abhimanue M S

length of Abhimanue

9

converting to uppercase

ABHIMANUE

converting to lowercase

abhimanue

4

Math.trunc()

4

Math.sign()

1

Math.pow()

16

Math.min()

1

Math.max()

5

Math.random()

0.4679218151860798

Math.log()

1.3862943611198906

Math.log10()

0.6020599913279624

Program # 7

Generate the calendar using JavaScript code by getting the year from the user.

PROGRAM CODE:

Calendar.html

```html
<html>

<head>
 <title>calendar</title>
</head>

<style>
   table {
    border-collapse: collapse;
   }

   td,
   th {
    border: 3px solid black;
    padding: 8px;
    text-align: center;
   }

   th {
    font-weight: bold;
    background-color: #E6E6E6;
   }
   td{
     font-size: 50px;
   }
</style>

<body style="background-color:powderblue;">
 <div class="myDiv">
   <h2 style="color:black; text-align:center;"><u><b>CALENDAR</b></u></h2>
 </div>
 <center>
```

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```
Enter the year:
<input type="text" placeholder="yyyy" id="t1"><br><br>
Enter the month:
<input type="text" placeholder="mm" id="t2"><br><br>
<button type="button" onclick="call()">Generate Calendar</button>
<center>
  <h2 style="color:black;" id="h1"></h2>
</center>
<br>
<br>
<div id="demo"></div>

<script>
 function createCalendar(elem, year, month) {
   let mon = month - 1;
   let d = new Date(year, mon);
   let table = '<h3>' + getMonthName(mon) + ' ' + year + '</h3>';
   table                                                           +=
'<table><tr><th>MON</th><th>TUE</th><th>WED</th><th>THU</th><th>FRI</th><th>
SAT</th><th>SUN</th></tr><tr>';
   for (let i = 0; i < getDay(d); i++) {
    table += '<td></td>';
   }

   while (d.getMonth() == mon) {
    if (getDay(d) % 7 != 6)
     table += '<td>' + d.getDate() + '</td>';
    else
     table += '<td style="color:red;">' + d.getDate() + '</td>';
    if (getDay(d) % 7 == 6) {
     table += '</tr><tr>';
    }

    d.setDate(d.getDate() + 1);
   }
   if (getDay(d) != 0) {
    for (let i = getDay(d); i < 7; i++) {
     table += '<td></td>';
    }
   }
   table += '</tr></table>';

   elem.innerHTML = table;
  }
```

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```
    function getDay(date) {
     let day = date.getDay();
     if (day == 0) day = 7;
     return day - 1;
    }

    function getMonthName(month) {
     const monthNames = ["January", "February", "March", "April", "May", "June", "July",
"August", "September", "October", "November", "December"];
     return monthNames[month];
    }

    function call() {
     var year = document.getElementById("t1").value;
     var month = document.getElementById("t2").value;
     createCalendar(demo, year, month);
    }
   </script>
  </center>
</body>

</html>
```

OUTPUT:

The calendar application displays:

CALENDAR

Enter the year: 2023

Enter the month: 11

[Generate Calendar]

November 2023

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

<div style="border:2px solid black; padding:20px;">

Program # 8

Create a HTML registration form and to validate the form using JavaScript code.

</div>

PROGRAM CODE:

Valid.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Registration Form</title>
 <style>
  body {
    font-family: Arial, sans-serif;
    margin: 20px;
    background-color: #808080; /* Changed background color to gray */
    color: black; /* Changed text color to white */
    text-align: center;
  }
  form {
   max-width: 400px;
   margin: 0 auto;
  }
  label {
   display: block;
   margin-bottom: 8px;
  }
  input {
   width: 100%;
   padding: 8px;
   margin-bottom: 10px;
   box-sizing: border-box;
  }
  input[type="submit"] {
   background-color: #4caf50;
   color: white;
```

```
    cursor: pointer;
    }
    input[type="submit"]:hover {
      background-color: #45a049;
    }
    .error {
      color: #ff0000;
    }
  }
 </style>
</head>
<body>

  <h2>Registration Form</h2><br><br><br>
  <form id="registrationForm" onsubmit="return validateForm()">
    <label for="username">Username:</label>
    <input type="text" id="username" name="username" required>
    <span id="usernameError" class="error"></span>

    <label for="email">Email:</label>
    <input type="email" id="email" name="email" required>
    <span id="emailError" class="error"></span>

    <label for="password">Password:</label>
    <input type="password" id="password" name="password" required>
    <span id="passwordError" class="error"></span>

    <label for="confirmPassword">Confirm Password:</label>
    <input type="password" id="confirmPassword" name="confirmPassword" required>
    <span id="confirmPasswordError" class="error"></span>

    <label for="phoneNumber">Phone Number:</label>
    <input type="tel" id="phoneNumber" name="phoneNumber" pattern="[0-9]{10}"
required>
    <span id="phoneNumberError" class="error"></span>

    <input type="submit" value="Submit">
  </form>

  <script>
    function validateForm() {
      var username = document.getElementById('username').value;
      var email = document.getElementById('email').value;
      var password = document.getElementById('password').value;
      var confirmPassword = document.getElementById('confirmPassword').value;
```

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```
    var phoneNumber = document.getElementById('phoneNumber').value;

    document.getElementById('usernameError').innerText = '';
    document.getElementById('emailError').innerText = '';
    document.getElementById('passwordError').innerText = '';
    document.getElementById('confirmPasswordError').innerText = '';
    document.getElementById('phoneNumberError').innerText = '';

    if (username.length < 5) {
      document.getElementById('usernameError').innerText = 'Username must be at least 5
characters';
      return false;
    }
    var emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
    if (!emailRegex.test(email)) {
      document.getElementById('emailError').innerText = 'Invalid email address';
      return false;
    }
    if (password.length < 8) {
      document.getElementById('passwordError').innerText = 'Password must be at least 8
characters';
      return false;
    }
    if (password !== confirmPassword) {
      document.getElementById('confirmPasswordError').innerText = 'Passwords do not
match';
      return false;
    }
    var phoneRegex = /^[0-9]{10}$/;
    if (!phoneRegex.test(phoneNumber)) {
      document.getElementById('phoneNumberError').innerText = 'Invalid phone number (10
digits)';
      return false;
    }
    alert('Registration successful!');
    return true;
  }
 </script>

</body>
</html>
```

Program # 9

Create a program using the JavaScript Event Listener to add multiple events on the same button

PROGRAM CODE:

Event.html

```
<html>
<head>
<title>EVENT HANDLING</title>
</head>
<body bgcolor="powderblue">

<center><h2>EVENT HANDLING</h2>

<p>This program uses the addEventListener() method to add multiple events on the same button.</p>

<button id="btn">Click</button>

<p id="demo"></p>-

<script>

var x = document.getElementById("btn");

x.addEventListener("mouseover", mouseOverFunction);

x.addEventListener("click", mouseClickFunction);

x.addEventListener("mouseout", mouseOutFunction);
function mouseOverFunction() {

document.getElementById("demo").innerHTML += "Hovering!<br>";

}

function mouseClickFunction() {
```

```
document.getElementById("demo").innerHTML += "Clicked!<br>";

}

function mouseOutFunction() {

document.getElementById("demo").innerHTML += "Moused out!<br>";

}

</script>

</body>
</center>

</html>
```
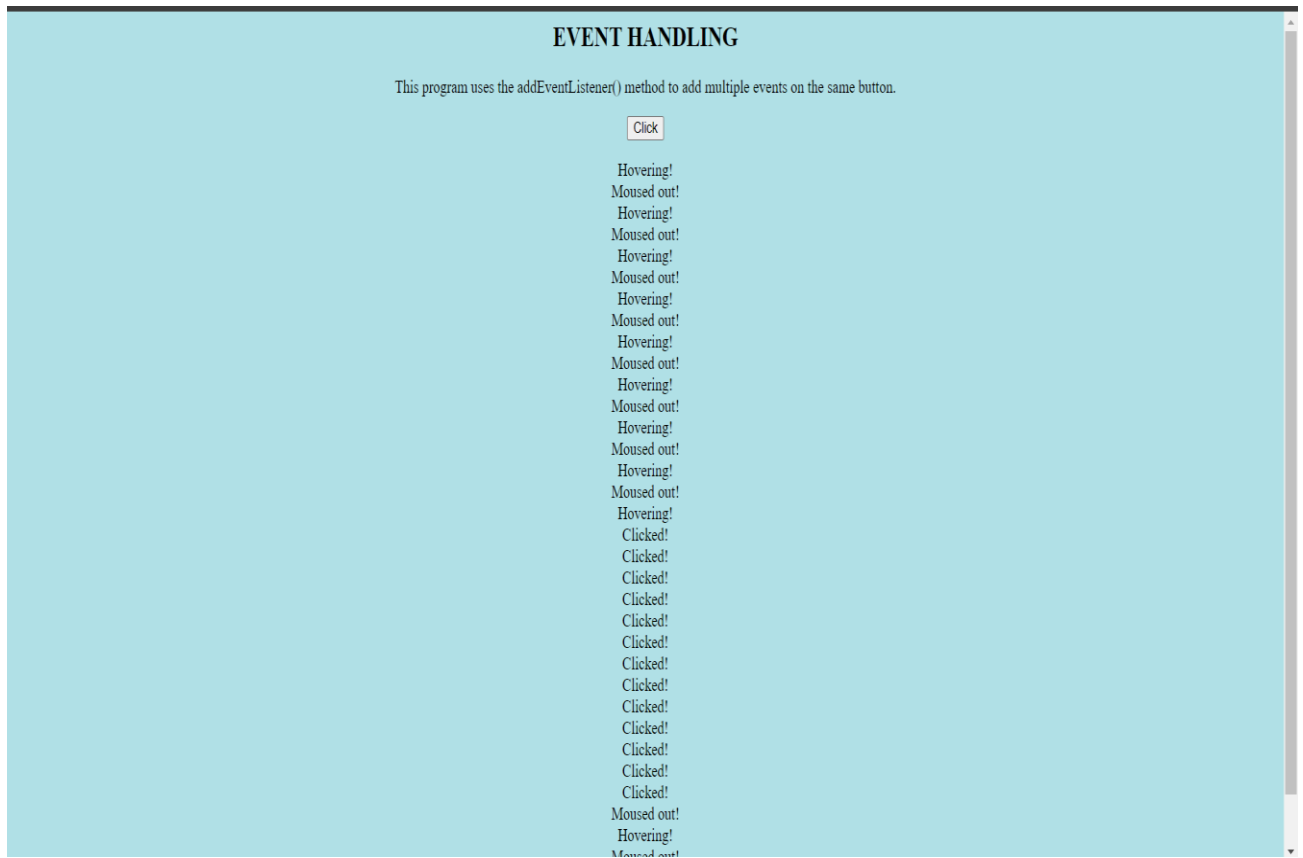
Program # 10

Develop a JavaScript Event Handling mechanism to change the background colour of HTML page.

PROGRAM CODE:

color.html

```html
<!DOCTYPE html>

<html>

<head>

<title>Change Background Colour on Mouse Click</title> <style>

body { font-family: sans-serif; }

#container

{ width: 1000px;

height: 400px;

margin: 50px auto;

padding: 20px;

text-align: center;

border: 1px solid #ccc;} </style>

</head>

<body bgcolor="black">

<div id="container">

<h1>COLOR ME</h1> <p>Click HERE </p> </div> <script>
```

```
const container = document.getElementById('container'); container.addEventListener('click',
() => {
```

```
const colors = ['#44B09E', '#DE4256', '#ACABB0', '#FFFFFF', '#F8002F', '#272822']; const
randomColor = colors[Math.floor(Math.random() * colors.length)];
container.style.backgroundColor = randomColor; });
```

```
</script>
```

```
</body>
```

```
</html>
```

OUTPUT:

Program # 11

Create a HTML page to display a new image and text when the mouse comes over the existing content in the page using JavaScript Event Handling mechanism.

PROGRAM CODE:

Image.html

```
<html>
<head>
<meta charset="UTF-8">
<title>Image and Text Hover</title>
<style>
#image-container {
    position: relative;
    width: 600px;
    height: 500px;
    background-color: #ccc;
    text-align: center;
   }

  #image-container img {
   width: 100%;
   height: auto;
  }

  #hidden-content {
   position: absolute;
   top: 0;
   left: 0;
   width: 100%;
   height: 100%;
   background-color: rgba(0, 0, 0, 0.5);
   color: white;
   text-align: center;
   display: none;
  }

  #hidden-content p {
   color: white; /* Set text color to white */
```

```
  }
</style>
</head>
<CENTER>
<body bgcolor="black">
<h2 style:"color:white">EVENTB HANDLING</H2>

<div id="image-container">
<img src="tree.jpg">
<p id="image-text"></p>
<div id="hidden-content">
<img src="m.png">
</div>
</div>
<script>
const imageContainer = document.getElementById('image-container');
const hiddenContent = document.getElementById('hidden-content');
const imageText = document.getElementById('image-text');
imageContainer.addEventListener('mouseover', () => {
hiddenContent.style.display = 'block';
imageText.textContent = 'NATURE'; });
imageContainer.addEventListener('mouseout', () => {
hiddenContent.style.display = 'none';
imageText.textContent = 'TREE'; });
</script>
</body>
</CENTER>
</html>
```

<div style="border:1px solid black; padding:10px;">
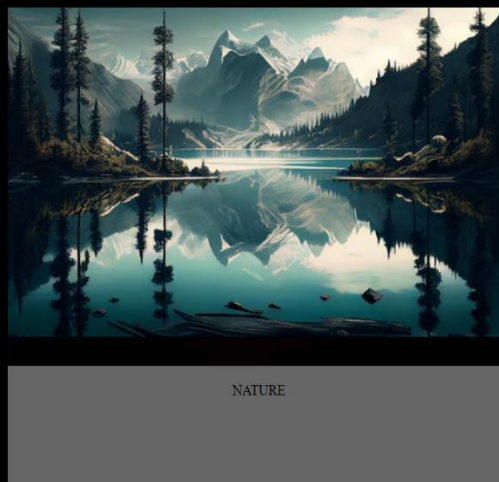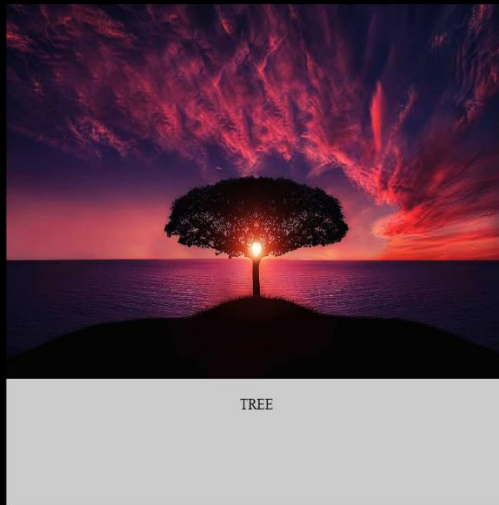
Program # 12

Design and develop a complete Online exam using Html, CSS and JavaScript.

</div>

PROGRAM CODE:

Online.html

```html
<!doctype html>
<html lang="en">
 <head>
  <title> Quiz</title>
  <style>
   body {
      font-family: Arial, sans-serif;
      margin: 0;
      display: flex;
      justify-content: center;
      align-items: center;
      height:auto;
      background-color:rgb(176, 224, 230) ;
   }

   #examContainer {
      background-color: rgb(112,112,112);
      border: 20px solid rgb(91, 176, 233);
      padding: 20px;
   }

   form {
      text-align: left;
   }

   #result {
      margin-top: 20px;
      text-align: left;
   }
  </style>
 </head>
```

```html
<body bgcolor="powderblue">
 <div id="examContainer">
  <h1 align="center"><u>WEB PROGRAMMING TEST</u></h1>
  <form id="examForm">
   <h3>1: HTML stands for -</h3><br>
<label> <input type="radio" name="q1" value="HyperText Markup Language">HyperText
Markup Language<br></label>
<label> <input type="radio" name="q1" value="HighText Machine Language">HighText
Machine Language<br></label>
 <label> <input type="radio" name="q1" value="HyperText and links Markup
Language">HyperText and links Markup Language<br></label>
   <h3>2:Which of the following attribute is used to provide a unique name to an
element?</h3>
<label> <input type="radio" name="q2" value="class">class<br></label> <label>
<input type="radio" name="q2" value="type">type<br></label> <label>
<input type="radio" name="q2" value="id">id.<br></label>
   <h3>3:What are the types of unordered or bulleted list in HTML?</h3>
<label> <input type="radio" name="q3" value="disc, circle, square">disc, circle,
square<br></label>
<label> <input type="radio" name="q3" value="disc, square, triangle"> disc, square,
triangle<br></label>
<label> <input type="radio" name="q3" value="Both A and B"> Both A and B<br></label>
   <h3>4:The "function" and " var" are known as:</h3>
<label> <input type="radio" name="q4" value="Declaration statements">Declaration
statements<br></label>
<label> <input type="radio" name="q4" value="Keywords">Keywords<br></label>
 <label> <input type="radio" name="q4" value="Data types">Data types<br></label>
   <h3>5:Which of the following variables takes precedence over the others if the names are
the same?</h3>
<label> <input type="radio" name="q5" value="The local element">The local
element<br></label>
<label> <input type="radio" name="q5" value="None of the above">None of the
above<br></label>
 <label> <input type="radio" name="q5" value="Global variable"> Global
variable<br></label>
  <br>
  <br>
  <center>
   <input type="button" value="Submit" onclick="submitExam()">
  </center>
 </form>
 <div id="result" style="display: none;background-color:powderblue;">
  <center>
   <h2>Result:</h2>
```

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```
  <p id="score"></p>
  <h3>Correct Answers:</h3>
  <ul id="correctAnswers"></ul>
 </center>
</div>
</div>
<script>
 function submitExam() {
    // Questions and Correct Answers
    const correctAnswers = {
       q1: 'HyperText Markup Language',
       q2: 'id',
       q3: 'disc, circle, square',
       q4: 'Declaration statements',
       q5: 'The local element',
    };

    const userAnswers = {
       q1: document.querySelector('input[name="q1"]:checked').value,
       q2: document.querySelector('input[name="q2"]:checked').value,
       q3: document.querySelector('input[name="q3"]:checked').value,
       q4: document.querySelector('input[name="q4"]:checked').value,
       q5: document.querySelector('input[name="q5"]:checked').value,
    };

    // Calculate score
    let score = 0;
    for (const question in correctAnswers) {
      if (correctAnswers[question] === userAnswers[question]) {
         score++;
      }
    }

    document.getElementById('score').innerText = `OBTAINED SCORE: ${score} out of
5`;
    const correctAnswersList = document.getElementById('correctAnswers');
    correctAnswersList.innerHTML = '';

    for (const question in correctAnswers) {
       const li = document.createElement('li');
       const userAns = userAnswers[question];
       const correctAns = correctAnswers[question];
```

```
        li.innerHTML = `<strong>Question ${question.slice(1)}:</strong><br> Your
Answer: ${userAns}<br> Correct Answer: ${correctAns}`;
        correctAnswersList.appendChild(li);
    }

    document.getElementById('result').style.display = 'block';
    alert("your score is: "+ score);
  }
 </script>
 </body>
</html>
```

OUTPUT: